What is claimed is:

1. An optical pickup apparatus comprising:

a diffractive optical element; and

an objective lens that focuses light beams of different wavelengths, namely a first wavelength $\lambda 1$, a second wavelength $\lambda 2$, and a third wavelength $\lambda 3$, on an information recording surface formed on different types of recording medium, namely a first recording medium, a second recording medium, and a third recording medium, respectively,

the diffractive optical element comprising:

a first diffractive surface that does not diffract the light beams of the first and third wavelengths $\lambda 1$ and $\lambda 3$ but that diffracts the light beam of the second wavelength $\lambda 2$; and

a second diffractive surface that does not diffract the light beams of the first and second wavelengths $\lambda 1$ and $\lambda 2$ but that diffracts the light beam of the third wavelength $\lambda 3$.

2. An optical pickup apparatus as claimed in claim 1, wherein the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ have increasingly long wavelengths in order of increasing number.

3. An optical pickup apparatus as claimed in claim 1, wherein the diffractive optical element has a grating portion having a step-shaped section, differences in height of individual steps thereof producing optical path differences equal to integral multiples of $\lambda 1$.

4. An optical pickup apparatus as claimed in claim 1, wherein the diffractive optical element is disposed in an optical path between a light source that emits the light beams

and the objective lens.

5. An optical pickup apparatus as claimed in claim 4, wherein the diffractive optical element is disposed on a light-source side of the objective lens, immediately in front of an entrance surface thereof.

6. An optical pickup apparatus as claimed in claim 4, wherein the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ are all parallel beams when entering the diffractive optical element.

7. An optical pickup apparatus as claimed in claim 1, wherein the diffractive optical element makes the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ that have entered the diffractive optical element exit therefrom as divergent beams.

8. An optical pickup apparatus as claimed in claim 1, wherein the diffractive optical element is held in such a way that a position of the objective lens relative thereto remains fixed.

9. An optical pickup apparatus as claimed in claim 1, wherein the diffractive optical element is of a continuous type in which any two adjacent level surfaces differ in height only by one step.

10. An optical pickup apparatus as claimed in claim 1, wherein the diffractive optical element is of a sawtooth type in which, every predetermined number of level surfaces

of which each differs in height by one step from a next, level surfaces are shifted back by a corresponding number of steps.

11. An optical disk apparatus comprising:

a light source that oscillates light beams of different wavelengths, namely a first wavelength $\lambda 1$, a second wavelength $\lambda 2$, and a third wavelength $\lambda 3$;

a light integrator that makes the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ exit therefrom in such a way as to proceed to travel along an common optical path;

a diffractive optical element; and

an objective lens that focuses the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ on an information recording surface formed on different types of recording medium, namely a first recording medium, a second recording medium, and a third recording medium, respectively,

the diffractive optical element comprising:

a first diffractive surface that does not diffract the light beams of the first and third wavelengths $\lambda 1$ and $\lambda 3$ but that diffracts the light beam of the second wavelength $\lambda 2$; and

a second diffractive surface that does not diffract the light beams of the first and second wavelengths $\lambda 1$ and $\lambda 2$ but that diffracts the light beam of the third wavelength $\lambda 3$.

12. An optical disk apparatus as claimed in claim 11, wherein the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ have increasingly long wavelengths in order of increasing number.

13. An optical disk apparatus as claimed in claim 11, wherein the diffractive optical element has a grating portion having a step-shaped section, differences in height of individual steps thereof producing optical path differences equal to integral multiples of $\lambda 1$.

14. An optical disk apparatus as claimed in claim 11, wherein the diffractive optical element is disposed in an optical path between the light source that emits the light beams and the objective lens.

15. An optical disk apparatus as claimed in claim 14, wherein the diffractive optical element is disposed on a light-source side of the objective lens, immediately in front of an entrance surface thereof.

16. An optical disk apparatus as claimed in claim 14, wherein the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ are all parallel beams when entering the diffractive optical element.

17. An optical disk apparatus as claimed in claim 11, wherein the diffractive optical element makes the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ that have entered the diffractive optical element exit therefrom as divergent beams.

18. An optical disk apparatus as claimed in claim 11, wherein the diffractive optical element is held in such a way that a position of the objective lens relative thereto remains fixed.

19. A diffractive optical element disposed in an optical path of an optical pickup apparatus, comprising:

a first diffractive surface that does not diffract light beams of first and third wavelengths $\lambda 1$ and $\lambda 3$ but that diffracts a light beam of a second wavelength $\lambda 2$; and

a second diffractive surface that does not diffract light beams of first and second wavelengths $\lambda 1$ and $\lambda 2$ but that diffracts a light beam of a third wavelength $\lambda 3$.

20. A diffractive optical element as claimed in claim 19, wherein the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ have increasingly long wavelengths in order of increasing number.

21. A diffractive optical element as claimed in claim 19, wherein the diffractive optical element has a grating portion having a step-shaped section, differences in height of individual steps thereof producing optical path differences equal to integral multiples of $\lambda 1$.

22. A diffractive optical element as claimed in claim 19, wherein the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ are all parallel beams when entering the diffractive optical element.

23. A diffractive optical element as claimed in claim 19, wherein the diffractive optical element makes the light beams of the first, second, and third wavelengths $\lambda 1$, $\lambda 2$, and $\lambda 3$ that have entered the diffractive optical element exit therefrom as divergent beams.

24. A diffractive optical element as claimed in claim 19, wherein the diffractive optical element is of a continuous type in which any two adjacent level surfaces differ in height only by one step.

25. A diffractive optical element as claimed in claim 19, wherein the diffractive optical element is of a sawtooth type in which, every predetermined number of level surfaces of which each differs in height by one step from a next, level surfaces are shifted back by a corresponding number of steps.